ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 8/16/65	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.
ED002191	N.A.	N.A.

DO NOT WRITE IN SPACE BELOW

4. AUTHOR(S): Harvard-Boston Summer Program

5. TITLE OF DOCUMENT ABSTRACTED:
Section I: Selected Bibliography in Mathematics
Section II: New Mathematics Programs for the Elementary Level
Section III: List of Publishers of Commercial Arithmetic Texbooks

6. PUBLICATION TITLE: N.A.

7. EDITOR(S): N.A.

8. PLACE OF ORIGIN
Harvard-Boston
ORG. Summer Program
ST. Harvard University
CITY, STATE Cambridge, Mass.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
1965 Harvard-Boston Summer Program
Harvard University, Cambridge, Mass.

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	1965	10

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TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☒
FINAL ☐
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR Bibliography

16. INDEXING TERMS (6-12)

mathematics	textbooks	contemporary	mathematics	
bibliography	mathematics programs			
teacher education	elementary schools			
	games			

17. ABSTRACT (MAX. 250 WORDS)

A bibliography of books, pamphlets, and magazines which will assist the elementary school teacher in building a background for understanding the changes in elementary school mathematics is presented. Number lines, fractions, and fundamental concepts are important topics in many of the publications.

A listing of 9 programs for teaching new mathematics at the elementary level includes publications and materials available from each program. Thirty-eight publishers of arithmetic textbooks are included in the bibliography.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OF PROJECT	U.S. Department of Health, Education, and Welfare Office of Education

ERIC Form 1

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Selected Bibliography in Mathematics

ED002191

The following titles of professional books, pamphlets, and magazines are selected because of the contribution they can make to the elementary classroom teacher who wishes to build a background of understanding for the changes in elementary school mathematics.[1]

*indicates titles of most importance

*"An Analysis of New Mathematics Programs," National Council of Teachers of Mathematics, 1201 16th St., N.W., Washington D.C. 20036, 1963. 68p. Price $.50.

"Analysis of Research in the Teaching of Mathematics," U.S. Department of Health, Education, and Welfare, Office of Education, Bulletin # 8, 1960. 50 p.

*"Arithmetic with Frames," UICSM Project Staff, University of Illinois, Reprint: Twenty-Seventh Yearbook, National Council of Teachers of Mathematics, 1201 16th St., N.W., Washington 6, D.C., 1963.

Banks, J. Houston. Learning and Teaching Arithmetic. Boston: Allyn and Bacon, 1959. 405 p.

Bell, Clifford, Clela Hammond and Robert Herrera. Fundamentals of Arithmetic for Teachers. New York: John Wiley and Sons, 1962. 307 p.

*Brumfiel, Charles, Robert Eicholz and Merrill Shanks. Fundamental Concepts of Elementary Mathematics. Reading, Mass.: Addison-Wesley Publishing C., 1962. 340 p.

*Davis, Robert. "The Evolution of School Mathematics," Reprint: Journal of Research in Science Teaching, 1963.

Davis, Robert. "Math Takes a New Path," Reprint: The PTA Magazine, February, 1963.

*Deans, Edwina. "Elementary School Mathematics - New Directions," U.S. Dept. of Health, Education and Welfare, Special Service Section, P.O. Box 1533, Washington D.C. 20016, 1963. 116 p. Price $ .50.

*Dienis, Z.P. An Experimental Study of Mathematics Learning. London, 1963.

"Educational Leadership," Association for Supervision and Curriculum Development, National Education Association, 1201 16th St. N.W., Washington 6, D.C., March, 1962.

*Evaluation in Mathematics, Twenty-Sixth Yearbook, National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1961. 216 p.

[1] Many of these titles were taken from the Bibliography given in "Elementary School Mathematics - New Directions," by Edwina Deans, U.S. Dept. of Health, Education, and Welfare, 1963, pp. 105-106.

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"Frontiers in Mathematics Education," Dept. of Public Instruction, Lansing, Michigan, NDEA - 310, 1961. 22p.

Glennon, Vincent and C.W. Hunnicut. "What Does Research Say About Arithmetic?" Association for Supervision and Curriculum Development, National Education Association, 1201 16th St. N.W., Washington 6, D.C., 1958. 77p.

*"Goals for School Mathematics - A Report of the Cambridge Conference on School Mathematics," published for Educational Services Inc., Boston: Houghton Mifflin Co., 1963. 102 p. Price $1.00.

"Grade Teacher Magazine," A Mathematics Roundup. (Reprint) Daven, Conn., April, 1962.

Greater Cleveland Mathematics Program. "Key Topics for Primary Teachers." Chicago: Science Research Associates. 1962. 88.

*The Growth of Mathematical Ideas: Grades K-12. Twenty-Fourth Yearbook, National Council of Teachers of Mathematics, 1201 16th St., N.W., Washington 6, D.C., 1953. 507 p.

*Instruction in Arithmetic. Twenty-Fifth Yearbook, National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1960. 366 p.

Johnson, Donovan, and William Glenn. Exploring Mathematics on Your Own. St. Louis, Mo.: Webster Publishing Co., 1960.
Subtitles of interest to the elementary school teacher in this series of bulletins are:
1. Sets, Sentences and Operations
2. Invitation to Mathematics
3. Understanding Numeration Systems
4. Fun with Mathematics
5. Number Patterns
6. The World of Measurement
7. Adventures in Graphing

Jones, Phillip. Understanding Numbers: Their History and Use. Ulrich's Bookstore, 547-549 E. University Avenue, Ann Arbor, Michigan, 1954. 49 p.

Journals: National Council of Teachers of Mathematics, 1201 16th St., Washington, D.C.

Arithmetic Teacher. Eight issues per year. For kindergarten and the elementary school.

Mathematics Teacher. Eight issues per year. For the secondary level.

Mathematics Student Journal. Four issues per year. For students in grades seven through twelve.

Lay, L. Clark. Arithmetic: An Introduction to Mathematics. New York: The Macmillan Co., 1961. 323 p.

The Learning of Mathematics: Its Theory and Practice. Twenty-First Yearbook, National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1953. 355 p.

May, Lola. Major Concepts of Elementary Modern Mathematics. 1122 Central Ave., Wilmette, Ill.: John Colburn Associates, 1962. 60 p.

Mueller, Francis. Arithmetic - Its Structure and Concepts. Prentice-Hall, Englewood Cliffs, N.J., 1956. 229 p.

The New Mathematics, "Audiovisual Instruction," Dept. of Audiovisual Instruction, National Education Association, 1201 16th St. N.W., Washington 6, D.C., March, 1962.

Myers, Sheldon. "Mathematics Tests Available in the United States," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1959. 16 p. Price $ .50.

*Page, David. Number Line, Fractions and Fundamental Topics. New York: MacMillan Co., 1964.

Peck, Lyman. "Secret Codes, Remainder Arithmetic, and Matrices," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1961. 64 p. $ .60.

Phillips, Harry and Marguerite Kluttz. "Modern Mathematics and Your Child," U.S. Dept. of Health, Education and Welfare, Special Service Section, P.O. Box 1533, Washington, D.C., 20013, 1963. 28 p. Price $ .20.

"Research Problems in Mathematics Education." U.S. Dept. of Health, Education and Welfare, Office of Education, Cooperative Research Monograph, No. 3, 1960. 130 p.

*"The Revolution in School Mathematics," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1960. 90 p.

*Ringenberg, Lawrence. "A Portrait of 2," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1964. 48 p. $ .75.

*Schaaf, William. Basic Concepts of Elementary Mathematics. New York: John Wiley and Sons, 1960. 386 p.

Schult, Veryl. "The Supervisor of Mathematics, His Role in the Improvement of Mathematics Instruction," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1959. 10 p. $ .15.

*Strader, William. "Five Little Stories," National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington 6, D.C., 1960. 16 p. $ .50.

Sevain, Robert. Understanding Arithmetic. New York: Rinehart and Co., 1957. 268 p.

"Thinking in the Language of Mathematics," Illinois Curriculum Program: The Subject Field Series, Springfield, Illinois: Office of the Superintendent of Public Instruction, Bulletin C-2, 1959. 152 p.

*Topics in Mathematics for Elementary School Teachers, National Council of Teachers of Mathematics, 1201 16th St. N.W., Washington, D.C., 1964. $2.15 for all eight booklets, $ .30 each. (also available as the Twenty-Ninth Yearbook, 384 p. Price $4.00)

Booklet No. 1: "Sets" 56 p.
" No. 2: "The Whole Numbers" 60 p.
" No. 3: "Numeration Systems for the Whole Numbers" 40 p.
" No. 4: "Algorithms for Operations with Whole Numbers" 40 p.
" No. 5: "Numbers and Their Factors" 56 p.
" No. 6: "The Rational Numbers" 80 p.
" No. 7: "Numeration Systems for the Rational Numbers" 52 p.
" No. 8: "Number Sentences" 52 p.

Thorpe, Cleata. Teaching Elementary Arithmetic. New York: Harper and Brothers, 1962. 412 p.

Weaver, J. Fred and Cleo Brawley. "Enriching the Elementary School Mathematics Program for More Capable Children," Boston: Boston University Journal of Education, October, 1959. 40 p.

Section II

New Mathematics Programs for Elementary Level

African Education Study:

"Introduction to Algebra and to the Language of Geometry"
Prepared at the Entelbe Mathematics Workshop
Available from: Educational Services, Inc.
Watertown, Mass.

Ball State Program:

"Elementary School Mathematics"
Series for kindergarten through grade 6
Robert Eicholz, Phares G. O'Daffer, Charles F. Brumfiel, Merrill Shanks

Hard-covered texts and Teachers' Manuals
Available from: Addison Wesley Publishing Co.
Reading, Mass.

Cuisenaire Company of America, Inc.:

Publications: "Math with Numbers in Color," C. Gattegno
"Talks for Primary School Teachers," Madeline Goutard
"Arithmetic - A Teacher's Introduction to Cuisenaire-Gattegno Methods," C. Gattegno
"Arithmetic with Numbers in Colour," Bks. 1-11 and A-D, Teachers' Commentaries, C. Gattegno
"For the Teaching of Elementary Mathematics," C. Gattegno
"Mathematics Awareness," John V. Trivett

Greater Cleveland Mathematics Program (GCMP):

Executive Director: Dr. George H. Baird
Greater Cleveland Research Council
75 Public Square
Cleveland 11, Ohio

Materials: Students' Texts and Teachers' Guides, K-6
"Key Topics in Math for the Primary Teachers"
Available from: Science Research Associates, Inc.
259 East Erie St.
Chicago 11, Illinois

Madison Project (Syracuse University, Webster College):

Director: Prof. Robert B. Davis
Webster College
St. Louis 19, Missouri

Research Associate: Mrs. Beryl Cochran
Birch Hill
Weston, Conn.

Materials: available from Addison-Wesley Publishing Co.
Reading, Mass.
- Discovery in Mathematics, Student Book $2.48
- Discovery in Mathematics, Teachers' Bk. $8.00

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Syracuse University
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- Matrices, Functions, and Other Topics
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available from Madison Project
Webster College
St. Louis, Missouri 63119
-"The Madison Project: A Brief Introduction to Materials and Activities" $ .60
-"In-Service Course for Teachers"
-Madison Project Reports
report on Madison Project activities (Sept. 1962 - Nov. 1963) submitted to National Science Foundation December, 1963 $1.00
-"A Modern Mathematics Program as It Pertains to the Interrelationship of Mathematical Content, Teaching Methods, and Classroom Atmosphere," report submitted to Commissioner of Health, Education, and Welfare, 1963 $1.00
-Film Booklets
"First Lesson" $ .30
"A Lesson with Second Graders" $ .25
"Matrices" $ .25
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"Open Sentences and Number Line"

"Introducing Derivations"
"Deriving Formulas for Area and Perimeter"
"Theorem: T=2x"
"Axioms and Theorems"
"Word Problems"
"The Square Root of Two"
"Postman Stories and Signed Numbers"
"Guessing Functions"

"Mathematics Workshop for Children," Robert Wirtz, Morton Botel, and W.W. Sawyer. Encyclopedia Britannica Press, Inc.

Minnesota Elementary Curriculum Project:

Director: Prof. Paul C. Rosenbloom
Minnesota School Mathematics Center
University of Minnesota
Minneapolis, Minnesota

Programmed Text:

"A Behavorial Research Laboratories Program: Basic Mathematics - A Problem Solving Approach", Books 1-5. Addison Wesley Publishing Co. (Reading, Mass.), 1963.

School Mathematics Study Group (SMSG):

Director: Prof. E.G. Begle
Assistant Director: George L. Roehr
Address: School Mathematics Study Group
School of Education
Cedar Hall
Stanford University
Stanford, California

Materials: available from A.C. Vroman, Inc.
367 South Pasadena Ave.
Pasadena, California

-"Mathematics for the Elementary School"
Books K, 1, 2, 3 $3.50

-"Mathematics for the Elementary School" (revised)

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Grade 6:	Students' text, I & II	3.00
	Teachers' commentary, I & II	3.00

Stanford Project:

Director: Prof. Patrick Suppes
Ventura Hall
Stanford University
Stanford, California

"Sets and Numbers," Patrick Suppes
"Teachers' Editions," Patrick Suppes, Shirley Hill, and Ann Boyle

available from: Blaisdell Publishing Co.
L.W. Singer Co., Inc.
Division of Random House, Inc.
249 West Erie Boulevard
Syracuse, N.Y.

-Geometry for the Primary Grades (Director: Prof. Newton L. Hawley, Dept. of Mathematics, Stanford University)
-Mathematical Logic (Director: Prof. Patrick Suppes)

African Education Study:

"Introduction to Algebra and to the Language of Geometry"

Prepared at the Entelbe Mathematics Workshop
Available from: Educational Services, Inc.
Watertown, Mass.

Section III

List of Publishers of Commercial Arithmetic Textbooks*

Addison-Wesley Publishing Co.
Reading, Mass.

Allyn and Bacon, Inc.
160 Tremont St.
Boston 11, Mass.

American Book Co.
55 Fifth Ave.
New York 3, N.Y.

Arithmetic Clinic
4402 Stanford St.
Chevy Chase, Md.

Cuisenaire Co. of America, Inc.**
9 Elm Ave.
Mt. Vernon, N.Y. 10550

Encyclopedia Brittanica Press
425 North Michigan Ave.
Chicago 1, Illinois

Ginn and Co.
Statler Office Building
Boston 17, Mass.

Grosset and Dunlap, Inc.
1107 Broadway
New York 10, N.Y.

E.M. Hale and Co.
1201 South Hastings Way
Eau Claire, Wisconsin

Harcourt, Brace, and World
750 Third Ave.
New York 17, N.Y.

D.C. Heath and Co.
285 Columbus Ave.
Boston 16, Mass.

Holden Day, Inc.
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McCormick - Mathers Publishing Co.
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Columbus 16, Ohio

New American Library of World Literature
501 Madison Ave.
New York 22, N.Y.

Noble & Noble Publishers, Inc.
67 Irving Place
New York 3, N.Y.

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Prentice-Hall, Inc.
Englewood Cliffs, N.J.

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P.O. Box 7600
Chicago 80, Ill.

Row, Peterson and Co.
2500 Crawford Ave.
Evanston, Ill.

Science Research Asscciates
259 East Erie St.
Chicago 11, Ill.

Scott, Foresman and Co.
433 East Erie St.
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Pasadena, California

Wagner, Harr Publishing Co.
609 Mission St.
San Francisco 5, California

Warp Publishing Co.
325 N. Colorado Ave.
Minden, Nebraska

Webster Publishing C.
1154 Reco Ave.
St. Louis 26, Mo.

World Wide Games*
Deleware, Ohio

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